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NEW GENERA AND NEW COMBINATIONS IN NEARCTIC CHLOROPIDAE (DIPTERA)

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Abstract.—Seven new genera of Chloropidae are described with type-species designated as follows: **Apallates** (*Oscinis dissidens* Tucker), **Biorbitella** (*Oscinella hesperia* Sabrosky), **Incertella** (*Oscinella incerta* Becker), **Malloewia** (*Siphonella diabolus* Becker), **Neoscinella** (*Oscinella gigas* Sabrosky), **Speccafrons** (*Oscinella mallochi* Sabrosky), all in the Oscinellinae, and **Homaluroides** (*Chlorops gramineus* Coquillett) in the Chloropinae. New combinations are proposed, in advance of and in explanation of the key to Nearctic genera that will appear in a manual of North American Diptera now in progress.

Preparation of a key to the genera of Nearctic Chloropidae has necessitated an extensive study of the generic classification of the North American species, for which certain generic names have long been used in an old and broad sense. The recent review of Old World genera by Andersson (1977) and the comparative study of abdomen and genitalia by Nartshuk (1977) have greatly aided this study. Seven new genera and many new generic assignments are here proposed in advance of the manual of Nearctic Diptera being edited by the dipterists of the Biosystematics Research Institute, Agriculture Canada, Ottawa. Figures of the heads will appear in the manual; male genitalia are illustrated in this paper. For references to Nearctic genera and species, see the "Catalog of the Diptera of America North of Mexico" (Sabrosky, 1965). For other generic references and type-designations, see Sabrosky (1941, 1964). A total of 54 genera is now recognized for the Nearctic Region, compared with 42 in the Catalog.

I have adopted two terms recently proposed by Andersson (1977). "Tibial organ" replaces "sensory area" for the distinct, linear to elongate-oval area of short dense hairs on the posterodorsal surface of the hind tibia. Its function in Chloropidae is unknown, but an area of similar appearance in the Sepsidae has been found to be secretory. Andersson's term "femural or-

gan" is also adopted, but as "femoral organ," for the specialized microscopic area of short spines on wartlike bases on the dorsal side of the mid femur in males of many genera of Oscinellinae. In addition, I have used the term "tomentose" instead of "pollinose."

Subfamily Oscinellinae

Aphanotrigonum Duda. Spencer (1977), in revising the New Zealand Chloropidae, synonymized this genus under *Caviceps* Malloch, originally proposed for a new Australian species, *C. flavipes*. I disagree with the synonymy and maintain *Aphanotrigonum* for the holarctic genus. It differs significantly from *Caviceps* by having the epistoma narrow, not warped forward and not projecting beyond the vibrissal angle as seen in profile; facial carina strong, descending straight to the epistoma from a conspicuous frontal lunule separating the antennal bases; frontal triangle distinct, even though not sharply bounded, extending halfway to anterior margin of frons; the latter square, as broad as long; no prescutellar bristles; and 2nd vein bisinuate, submarginal cell much wider than marginal cell.

Dasyopa Malloch. *Dasyopa* Malloch, 1918, is the senior synonym of *Trachysiphonella* Enderlein, 1936 (New Synonym). Recent European authors (Collin, 1946; Nartshuk, 1970; Andersson, 1977) have separated the latter by its chiefly yellow thorax from the much older *Oscinimorpha* Lioy, 1864. The color character was convenient for their fauna, but the Nearctic species that agree in fundamental features with the type-species, *T. pumilio* (Zetterstedt), have a chiefly or entirely black thorax. These are *Siphonella latifrons* Loew and *S. triangulata* Becker (New Combination with *Dasyopa*), the latter placed in *Conioscinella* by Sabrosky (1965). I refer them to *Dasyopa* rather than to *Oscinimorpha* on the basis of male genitalia (hypandrium open behind and postgonites distally angular and heavily sclerotized) and the femoral organ an "oval group of warts" as figured by Andersson (1977, fig. 57G). Species of *Oscinimorpha* also have the hypandrium open behind, but the postgonites are large and broadly rounded distally, and the femoral organ consists of a single row of warts.

Gaurax Loew. Almost all species have the characteristic formula of 1 + 1 notopleural bristles (one anterior, one posterior), but three species, *G. pilosulus* (Becker), *G. fumipennis* (Malloch), and *G. pallidipes* Malloch, have 1 + 2 notopleurals. Their relationship should be studied further, but for the present they are left in *Gaurax*.

Hippelates Loew. This genus is restricted to the predominantly yellow-bodied and gray tomentose species of the *plebejus* group. The polished black species (*pusio* group), including the most important pest species (eye gnats

and yaws flies), are referred to *Liohippelates* Duda, type-species *Hippelates pusio* Loew. The *dissidens* group is herein described as *Apallates*, new genus, the species of which were mostly called *Hippelates* because of a distinct although short hind tibial spur, but which are not attracted to man or other animals.

Liohippelates Duda. Duda (1929) included three species in this genus but lacked a generic diagnosis and designation of a type-species. Several years later, Duda (1931) designated *Hippelates convexus* Loew as type-species, but that was not originally included, and the type-species was subsequently fixed as *H. pusio* Loew (Sabrosky, 1941). Ten species of *Liohippelates* occur in the Nearctic Region: *Hippelates apicatus* Malloch, *H. bicolor* Coquillett, *H. bishoppi* Sabrosky, *Oscinis collusor* Townsend, *O. flaviceps* Loew, *H. flavipes* Loew, *O. pallipes* Loew, *H. peruanus* Becker, *H. pusio* Loew, and *H. robertsoni* Sabrosky, of which all but *flavipes, peruanus,* and *pusio* are NEW COMBINATIONS with *Liohippelates*, as far as I know. *Hippelates convexus,* the species designated by Duda as type-species, belongs to the *dissidens* group, herein described as *Apallates,* new genus. Duda's *Liohippelates,* of both the 1930 monograph on Neotropical Chloropidae and the short faunal paper of 1929 that preceded it, was a mixture of species of the *pusio* and *dissidens* groups, so that whichever one ended up with the name *Liohippelates,* the other would have required a new generic name at this time. It is fortunate that the suggestive name *Liohippelates* remains with the well-known *Hippelates* flies or eye gnats, rather than passing to the non-pest species that are now called *Apallates*.

Lioscinella Duda. This genus is included in the key for clarification even though no Nearctic species can be referred to it. The type-species is *Oscinisoma sulfurihalterata* Enderlein, which represents a small group of Neotropical species, also including *Siphonella speculiger* Enderlein, *S. prosthiomelas* Enderlein, and *S. dentitibia* Enderlein (NEW COMBINATIONS with *Lioscinella*). The generic name has been widely misapplied, probably because of the lack of any peculiarly distinctive features. I have seen at least seven species standing in collections under the name *sulfurihalterata,* in various generic combinations. Recent European specialists (Collin, Nartshuk, Andersson) have used the name *Lioscinella* for Palearctic species (*anthracina* Meigen and relatives) that were placed in *Oscinella* by Duda, but in my opinion *Lioscinella* does not occur in the Palearctic Region. For Nearctic species related to *anthracina* see *Rhopalopterum*.

Malloch and others, most recently Spencer (1977, 1978), have applied the name *Lioscinella* to a large group of species in Australia and New Zealand, but in my opinion it is unrelated to true *Lioscinella* and to any of the new genera described in this paper. Those species are characterized by reniform

3rd antennal segment, narrowed face, strongly concave 2nd vein (R_{2+3}) which results in a broader than usual marginal cell, and complete absence of a hind tibial spur. Their general habitus is that of *Gaurax,* but Spencer (1978) believes from a study of the male genitalia that they cannot be placed there.

In many features, including male genitalia and femoral organ, *Lioscinella* is similar to *Liohippelates,* and the former's possession of a hind tibial spur, albeit one much reduced and bristlelike, may also indicate a relationship. Both generic names date from the same publication (Duda, 1929), and if the two were combined, *Liohippelates* should be the name of choice by a first reviser, to preserve the suggestive name for the annoying gnats often known as "Hippelates flies."

Olcella Enderlein. *Olcella* is a group of common species with body habitus similar to *Conioscinella,* but the facial carina is distinct and complete, the vibrissal angle more or less produced, and the proboscis slender, elongate, and geniculate. Most of the species listed in *Olcella* by Sabrosky (1965) are typical; *O. submarginalis* (Sabrosky) and *O. trigramma* (Loew) are not but are left in *Olcella* for the present. I refer here also *Oscinella difficilis* Becker, with synonym *O. apparens* Becker, and *Siphonella finalis* Becker (New Combinations), which had been referred to *Conioscinella* by Sabrosky (1965). They are also atypical in *Olcella* but are referred there for the present.

Oscinella Becker. *Oscinella* was used for many years in a broad sense. In the Nearctic fauna, I restrict it to *O. frit* (Linnaeus), *O. nitidissima* (Meigen), and *O. grandissima* Sabrosky. For other species previously placed in *Oscinella* (Sabrosky, 1965), see the new genera *Apallates, Biorbitella, Incertella, Neoscinella,* and *Speccafrons.* The type-species problem for *Oscinella* has now been resolved by the designation, under the International Comission's plenary power, of *Musca frit* Linnaeus (I.C.Z.N., 1978a), which preserves traditional usage for that important economic species. *Oscinella grandissima* has a tiny and easily overlooked hind tibial spur, only half as long as the tibial diameter, but, nevertheless, the species will key to *Oscinella.*

Rhopalopterum Duda. This is the genus recognized as *Lioscinella* by Collin (1946), Nartshuk (1970), and Andersson (1977), centered around *Chlorops anthracina* Meigen without realization that *Lioscinella* (q.v.) refers to a completely different group. In the past, Nearctic species have been placed in *Oscinella* (see preceding discussion) or in *Stenoscinis.* In our fauna I limit *Stenoscinis* to the type-species, *Oscinis longipes* Loew, and to *S. adachiae*

Sabrosky. There is a question as to how widely the name *Rhopalopterum* should be applied but I include the following:

Species with polished black thorax: *Oscinella limitata* Becker (type-species), *Oscinis atriceps* Loew, *Oscinis nudiuscula* Loew, *Oscinella painteri* Sabrosky, *Chlorops soror* Macquart, and *Oscinis umbrosa* Loew (all except *limitata* are NEW COMBINATIONS with *Rhopalopterum*).

Four species are somewhat atypical in having dull or subshining, tomentose mesonotum but are referred here for the present (all as NEW COMBINATIONS with *Rhopalopterum*): *Oscinella beameri* Sabrosky, *Oscinis carbonaria* Loew, *Oscinis criddlei* Aldrich, and *Oscinella luteiceps* Sabrosky. As far as the key is concerned, all will pass without difficulty to *Rhopalopterum*. The relationship of the first named, *beameri,* is especially obscure.

Siphonella Macquart. The genus is here restricted, in our fauna, to the type-species, *Madiza oscinina* Fallén. It is possible that the Nearctic form identified as *oscinina* is distinct from though exceedingly similar to the European species, but for the present I leave it as commonly identified. For the other species referred to *Siphonella* by Sabrosky (1965), see *Malloewia,* new genus.

In North American literature, the name *Madiza* was once used for this genus, based legitimately on the first and valid designation of *M. oscinina* Fallén as the type-species. However, *Madiza* had commonly been used in the family Milichiidae for *M. glabra* Fallén and its relatives, and that usage has been fixed by the International Commission under its plenary power, in Opinion 1112 (I.C.Z.N., 1978b).

Tricimba Lioy. *Oscinella melancholica* Becker, referred to *Conioscinella* by Sabrosky (1965), is now referred to *Tricimba* (NEW COMBINATION, although the lines of punctures on the mesonotum are not as deeply impressed as usual in the genus.

Tropidoscinis Enderlein. The status of this much misunderstood name requires clarification. The genus was described for three new species, of which Enderlein himself designated the first, *T. luederwaldti,* as type-species. This was described from three syntypes (each labeled 'type'), Santa Catarina, Brazil, then in the Museum at Stettin, Germany. Two of these are now in the collection of the Instytut Zoologii, Polska Akademia Nauk, in Warsaw, and one is the Hungarian National Museum in Budapest. The Warsaw specimens were kindly loaned by Dr. J. T. Nowakowski, and I studied the third syntype during a visit to Budapest.

Two different species are represented, but Enderlein is known to have mixed series on other occasions. The syntypes in Warsaw have yellow halteres and both frontal triangle and mesonotum dull, gray to brownish gray

tomentose. The syntype in Budapest, on the other hand, has black halteres, shining frontal triangle (either thinly tomentose or merely dirty), and polished black thorax. The description clearly shows that some characters came from each species, and that all characters could not possibly have come from any one of the species or one of the specimens.

Designation of a lectotype from a mixed series is a critical step. In this case, if one of the Warsaw syntypes were to be designated, the action would result in sinking *Conioscinella* Duda in synonymy, but the latter is a far more widely used and more important name. If the Budapest syntype were to be designated, the name *Tropidoscinis* might fall in the synonymy of some older name but it might ultimately be found valid for a small Neotropical group. Inasmuch as the name *Tropidoscinis* has consistently been misapplied in European literature (see discussion under *Incertella*, new genus), that erroneous usage does not argue for saving the name for any holarctic group. Certainly, one should not designate a lectotype that would result in sinking the far better known and more widely used name *Conioscinella*. Therefore I designate as LECTOTYPE of *Tropidoscinis luederwaldti* Enderlein the syntype in the Hungarian National Museum in Budapest, and at my request my lectotype label has been placed on it by Dr. L. Papp. Thus far, I have been unable to find additional examples for detailed study.

Apallates Sabrosky, NEW GENUS

Type-species: *Oscinis dissidens* Tucker, 1908.

Slender, usually black species, with chiefly polished black frontal triangle, and hind tibia with small spur anteroventrally.

Eyes sparsely and microscopically pubescent, appearing bare under low magnification; frons at vertex much broader than an eye, parallel sided, not or barely projecting in advance of eyes; frontal triangle predominantly polished black, sometimes partly but rarely extensively tomentose, not long, typically about $^3/_5$ length of frons, at base well separated from eyes, flanked on each side by a row of erect interfrontal hairs, the hindmost 1 to 3 hairs set on triangle itself at extreme edge, the row then diverging forward from the triangle; in profile (Curran, 1934: 342, fig. 22), head as high as or slightly higher than long, depending on height of gena, vibrissal angle nearly a 90° angle and facial profile not or only weakly concave; gena distinct, finely tomentose above, with narrow genal dilation (peristome); facial carina at most a low narrow ridge and incomplete; 2nd antennal segment short, 3rd moderately large, suborbicular, slightly broader than long; arista microscopically pubescent; proboscis short, haustellum and labella each shorter than or at most as long as a palp. Cephalic bristles slender, not conspicuous: inner and outer verticals distinct, ocellars and post-ocellars shorter, erect and cruciate at tips, fronto-orbitals about 7 in each row, hairlike, the 4 posterior most distinct.

Mesoscutum gently convex, only moderately beset with fine hairs arranged in rows; mesonotum and upper half of pleuron finely tomentose, in a few species mesoscutum partly polished; scutellum short and broadly rounded. Pairs of bristles: 1 weak humeral, 1 + 2 notopleural, 1 postalar, 1 posterior dorsocentral, 1 apical and 1 subapical scutellar, the scutellars not on enlarged bases, apical scutellars well separated, convergent to tips, sometimes a posterior intraalar developed but more often hairlike.

Legs slender, ordinary; mid femur of male (14 species examined) usually with femoral organ consisting of one or two rows of tiny warts, 3–7 in each row, a few species with two rows of short, closely placed bristles; hind tibia not enlarged, the posterodorsal tibial organ narrowly elongate-oval, a short preapical anteroventral spur, in many species distinct and approximately equal in length to diameter of tibia, in others (*coxendix, neocoxendix,* etc.) the spur reduced, ½ the diameter of the tibia and easily overlooked, though stout, black, and distinct from pale tibial hairs.

Wing (Curran, 1934: 342, fig. 15) usual for Oscinellinae; costa to 4th vein, which ends approximately in apex of wing; 1st basal cell narrow; discal cell long and anterior crossvein (r-m) opposite or slightly beyond middle of cell; 5th vein with curvature midway along discal cell; anal area of wing broad, anal "angle" well developed.

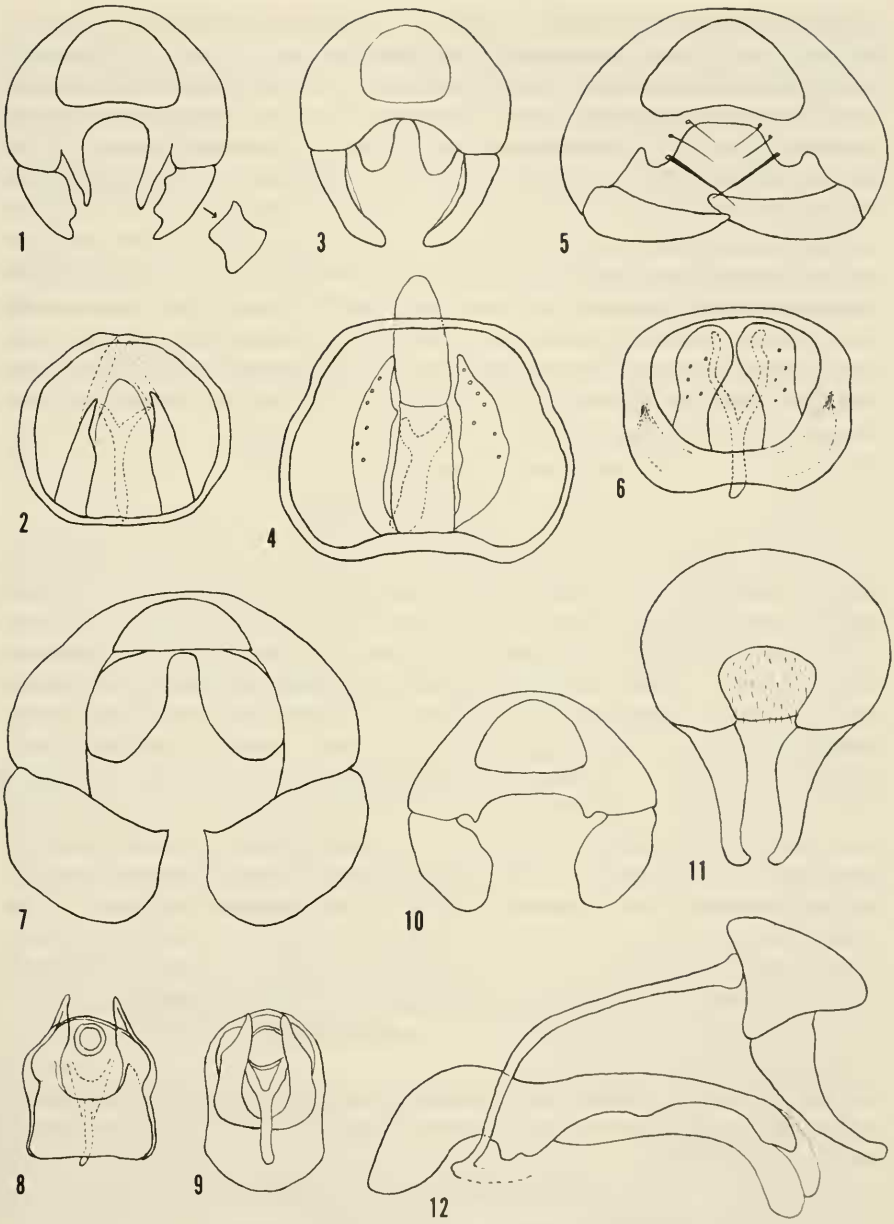
Male genitalia (Figs. 1, 2) with cerci discrete, widely separated, usually each cercus long and slender, in a few species relatively short; surstyli flat and broad, usually about equibroad throughout to a rounded apex, in a few species broadened apically and either shallowly bilobate or with narrow apical process at one corner; hypandrium complete, narrow.

Included species.—As New Combinations with *Apallates*: *Hippelates convexus* Loew, *Oscinis coxendix* Fitch, *Oscinis dissidens* Tucker, *H. hermsi* Sabrosky, *H. microcentrus* Coquillett, *H. montanus* Sabrosky, *Oscinella neocoxendix* Sabrosky, *Oscinella ochripes* Sabrosky, *Oscinella particeps* Becker, and *Hippelates tener* Coquillett.

Gender and derivation.—Masculine; based on the Greek *apallasso(s)*, to set free, to deliver from, combined with *Hippelates*, referring to the fact that many of the included species are removed from the genus *Hippelates*.

Remarks.—I could find no femoral organ in the Nearctic species *coxendix* and *neocoxendix*; however, the femoral organ is present, although somewhat reduced, in their almost identical Neotropical counterparts, and I have no hesitation in including the Nearctic species in *Apallates*. The hind tibial spur, always present, is relatively strong and distinct in species that have usually been referred to *Hippelates*, but greatly reduced and inconspicuous in the species usually referred to *Oscinella*. A similar relationship may exist between *Lioscinella* and *Liohippelates* (see discussion under *Lioscinella*).

In 1929 and 1930, Duda published a number of generic names for Neotropical Chloropidae, and some of these contained species that belong to



Figs. 1–12. Male genitalia of Chloropidae. 1–2, *Apallates dissidens*. 3–4, *Malloewia diabolus*. 5–6, *Neoscinella gigas*. 7–9, *Speccafrons mallochi*. 10, *Biorbitella hesperia*. 11–12, *Homaluroides gramineus*. 1, 3, 5, 7, 10, 11, Posterior view of epandrium. 2, 4, 6, 8, Hypandrium and phallic complex, ventral view. 9, Same, dorsal view. 12, Lateral view of terminalia.

the group I am naming *Apallates*. Some of these genera were mixtures, but as interpreted under subsequent type designations, none of the generic names applies to *Apallates*. The species of *Apallates* with tiny, inconspicuous hind tibial spur were usually referred to *Oscinella*, probably because of the polished black frontal triangle. However, as noted earlier in this paper, the name *Oscinella* is used for *O. frit* and relatives, a group quite unrelated to *Apallates*.

Biology.—The available rearing information is not precise, but such records as "reared from boll weevil infested cotton squares" and "reared from dead and dying *Drymaeus dormani* [tree snail]" suggest that the larvae are saprophagous. The adults are not attracted to humans; they are not "eye gnats" or "yaws flies" like the true *Hippelates* flies and *Liohippelates*, with which many of the species have long been associated because of the presence of a hind tibial spur.

Biorbitella Sabrosky, New Genus

Type-species: *Oscinella hesperia* Sabrosky, 1940.

As described for *Apallates*, to which it appears most closely related, except as follows: Eyes densely pubescent; outer vertical and postvertical bristles strongest and longest of the head bristles, the inner vertical and ocellar bristles shorter and weaker, ocellars and postocellars erect and cruciate at least at tips; 2 pairs of strong fronto-orbital bristles; notopleural bristles 1 + 1 (1 anterior, 1 posterior), the upper posterior only weakly developed, short and hairlike; mid femur of male with femoral organ consisting of 2 rows of tiny warts; hind tibia with or without short spur, if present not as long as diameter of tibia; male genitalia (Fig. 10) with cerci short, mere points, widely separated; surstyli flat, short and broad, very broadly rounded, slightly to distinctly elbowed, often broadened apically; postgonites long, slender, tapering; hypandrium complete, narrow.

Included species.—As New Combinations with *Biorbitella*: *Oscinella frontoorbitalis* Sabrosky, *O. hesperia* Sabrosky, *Oscinis pectoralis* Coquillett, *Oscinis virgata* Coquillett, *Neoolcanabates orbitalis* Duda.

Gender and derivation.—Feminine; name derived from the feature of 2 pairs of fronto-orbital bristles.

Remarks.—This small group of species is close to *Apallates*, but it is recognized on the basis of the densely pubescent eyes, 1 + 1 notopleural bristles, and surstyli.

Incertella Sabrosky, New Genus

Tropidoscinis of recent European authors, not Enderlein.
Type-species: *Oscinella incerta* Becker, 1912.

Small, slender species with heavily gray tomentose frontal triangle and mesonotum, and 1 anterior and 1 posterior notopleural bristles.

Eyes large, moderately to densely short to long pubescent; frons broader than an eye; frontal triangle broad at base, short, ½ to 3/5 length of frons, dull and heavily tomentose, on each side the row of interfrontal hairs set on the triangle itself, at the extreme edge, then diverging from it anterior to distal part of triangle; in profile head as high as or higher than long, frons only slightly projecting in advance of eye, facial profile receding and the rounded vibrissal angle a 90° angle or slightly obtuse; gena moderately narrow, its height ½ or less the breadth of 3rd antennal segment, broadly tomentose above with narrow and shining genal dilation (peristome) below; facial carina a sharp ridge dorsally, flattening out below; antenna of moderate size, 3rd segment subquadrate, broader than long; arista microscopically pubescent; proboscis and palpi short. Cephalic bristles distinct: Inner (sometimes weak) and outer vertical and erect ocellar and postocellar bristles, the ocellars subparallel, reclinate and slightly converging, postocellars cruciate at tips; fronto-orbitals numerous, hairlike, typically the upper 3 (occasionally 2 or 4) slightly stronger than the others.

Mesonotum and upper ½ of pleuron dull, densely tomentose; mesoscutum approximately square, as long as broad, with fine, sparsely set hairs arranged in rows ; scutellum broad and short, broadly rounded apically. Chaetotaxy: 1 weak humeral, 1 anterior and 1 posterior notopleural, 1 postalar, 1 posterior dorsocentral, 1 apical and 1 subapical (rarely 2) scutellar pairs of bristles, the apical scutellars widely separated at bases.

Legs short, hind tibia with narrowly elongate-oval tibial organ; mid femur of male with slight dorsal swelling and a femoral organ of 2 rows of closely placed warts bearing short, stout spines, as figured by Andersson (1977, fig. 130) for the Palearctic species, "*Tropidoscinis*" *albipalpis* (Meigen).

Wings usual for Oscinellinae, costa ending at 4th vein (M_{1+2}) which ends at apex of wing; 2nd vein of moderate length, 2nd costal sector slightly but obviously longer than 3rd sector; 3rd and 4th veins parallel or only slightly diverging; 1st basal cell narrow, not broadened; anterior crossvein opposite middle of discal cell, or slightly beyond; anal area of wing well developed.

Male genitalia as described and figured by Andersson (1977) for "*Tropidoscinis*" *albipalpis* (Meigen), the cerci distinct and the surstyli flat and simple.

Included species.—As New Combinations with *Incertella*: *Botanobia bispina* Malloch, *Oscinis dorsata* Loew (synonyms *Oscinis dorsalis* Loew, preocc.; *Botanobia spiniger* Malloch), *Oscinella incerta* Becker, *Oscinella infesta* Becker, *Botanobia insularis* Malloch, *Oscinis minor* Adams, *Oscinis ovalis* Adams.

Gender and derivation.—Feminine; from the type-species, a common North American species.

Remarks.—This genus is clearly holarctic. The type-species, *Oscinella incerta* Becker, is very close to, and obviously congeneric with *Chlorops*

albipalpis Meigen and *Oscinella kerteszi* Becker from Europe (NEW COMBINATIONS with *Incertella*). In Duda's revision of the Palearctic Chloropidae (1932), both of these species were referred to *Conioscinella*, to which the species of *Incertella* will key in Duda's work. Collin (1946), Nartshuk (1970) and Andersson (1977) all recognize this group as a distinct genus, but erroneously as *Tropidoscinis*. Andersson characterized the genus as having two posterior notopleural bristles, which is true for *T. zuercheri* Duda, which seems to me to belong in *Oscinella*, but *albipalpis* and *kerteszi* have only one posterior notopleural, along with the other species that I place in *Incertella*.

Malloewia Sabrosky, NEW GENUS

Type-species: *Siphonella diabolus* Becker, 1912.

Black, chiefly polished; subcranial cavity (oral cavity) longer than broad, face concave, and vibrissal angle projecting; notopleural bristle formula 1 + 2.

Eyes large, sparsely microscopically haired, with long axis typically diagonal from vertex toward vibrissal angle; frons subquadrate; frontal triangle short, at most little over halfway to anterior margin of frons, polished black, interfrontal hairs on each side at extreme edge of triangle; in profile head more or less subquadrate, height and length equal or nearly so, 1.00–1.09× as high as long except in two species with broad gena, typically frons only moderately sloped and long axis of eye diagonal from vertex toward vibrissal angle, and face concave with vibrissal angle projecting in advance of anterior margin of eye; facial carina distinct, narrow, complete to epistomal area, antennal foveae relatively deep and well marked; subcranial cavity (oral cavity) obviously longer than broad, or at most length and breadth equal; antenna small, 3rd segment rounded distally and broader than long, arista microscopically pubescent; proboscis slightly elongated, geniculate, labella slender. Cephalic bristles short but strong: Inner and outer verticals, and erect ocellars and postocellars, the last usually convergent to tips or cruciate at tips; 4 pairs of fronto-orbital hairs short, weak, and inconspicuous in most species.

Thorax chiefly polished black in most species, mesoscutum tomentose only in *M. excipiens*; mesoscutum slightly longer than broad, convex, with numerous coarse piliferous punctures, in definite rows in some species, less distinctly so in others but always with definite median acrostical and dorsocentral rows; scutellum flattened, often rugose, always with numerous discal hairs. Thoracic bristles: 1 weak humeral, 1 anterior and 2 posterior notopleural, 2 postalar, 1 posterior dorsocentral, and 1 apical and 1 subapical scutellar pairs of bristles, with sometimes a 2nd pair of lateral scutellars basad of but close to the subapical pair.

Legs ordinary, with narrowly elongate-oval tibial organ; hind tibia without spur; mid femur of male with femoral organ consisting of 2 rows of warts, one row of rather large ones, the other row of much smaller ones. In *M. diabolus*, the type-species, there were 11 large and 8 small warts, but smaller numbers in other species examined.

Wing usual for Oscinellinae, costa ending at 4th vein (M_{1+2}), which ends at apex of wing; 2nd costal sector obviously longer than 3rd sector; 3rd and 4th veins straight, parallel or slightly diverging from bases; 1st basal cell narrow, not broadened midway, and sides of distal portion parallel (cell appearing slightly broadened in *M. aequa* which has greatly shortened cell); anterior crossvein (r-m) barely beyond middle of discal cell; anal area of wing well developed.

Male genitalia (Figs. 3, 4) similar to those of *Neoscinella* and *Lioscinella*; cerci discrete, separated by a U-shaped cleft; surstyli broad and straplike to apex; hypandrium narrow throughout, and completely closed; aedeagal apodeme short; postgonites tapering, without unusual development.

Included species.—As New Combinations with *Malloewia*: *Siphonella abdominalis* Becker (synonym, *Oscinella bifurca* Becker), *S. aequa* Becker, *S. diabolus* Becker, *S. excipiens* Becker, *S. extrema* Becker, *S. neglecta* Becker, *Madiza nigripalpis* Malloch, *M. setulosa* Malloch.

Gender and derivations.—Feminine; a combination of the names of authors Malloch and Loew, both of whom published extensively on Chloropidae, plus the termination *-ia*.

Remarks.—In some respects, notably the form of the head (face concave, vibrissal angle projecting), this group of species resembles *Oscinimorpha*, but that genus has heavily tomentose frontal triangle, densely short-haired eyes, and shortened discal cell. There is also a resemblance in the form of the head and the shining black body to *Siphonella*, in which most of the species were described, but in that genus the head is more extreme, the eyes are densely short haired, and the postocellar bristles are strong and parallel.

Malloewia abdominalis (Becker) differs in not having a distinctly projecting vibrissal angle, especially in the males, but otherwise it is best associated with *Malloewia*. It is unique among the species with shining black thorax in having an entirely yellow abdomen.

Neoscinella Sabrosky, New Genus

Type-species: *Oscinella gigas* Sabrosky, 1940.

Shining black, with mesoscutum and scutellum densely beset with piliferous punctures, and scutellum flattened; vibrissal angle not projecting anterior to eye; notopleural bristle formula 1 + 2.

Eyes large, sparsely microscopically haired, with long axis nearly vertical; frons subquadrate; frontal triangle short, at most extending little over half-

way to anterior margin of frons, polished black, interfrontal hairs at each side barely on extreme edges of triangle; in profile, head short, higher than long (1.23–1.41×), with strongly sloped frons not projecting in advance of eye, and face not or only slightly concave, the vibrissal angle approximately 90° and not projecting in advance of eye; gena moderately narrow, its height much less than breadth of 3rd antennal segment; genal dilation (peristome) narrow; facial carina present but low; subcranial cavity (oral cavity) obviously broader than long, by 1.17–1.25×; antenna small, 3rd segment rounded distally and broader than long; arista microscopically pubescent; proboscis short. Cephalic bristles slender: inner and outer verticals, erect but recurved and converging ocellars, and erect postocellars cruciate at tips; fronto-orbitals short and hairlike, 6 pairs distinct.

Thorax almost entirely polished black, narrowly tomentose around and below base of wing; mesoscutum slightly longer than broad, convex, with numerous coarse piliferous punctures, approximately in rows but median acrostical and the dorsocentral rows especially distinct; scutellum flattened, more or less rugose, with numerous discal hairs. Thoracic bristles: 1 weak humeral, 1 anterior and 2 posterior notopleural, 2 postalar, 1 posterior dorsocentral, and 1 apical and 1 subapical pairs of bristles, each subapical scutellar rather closely approximated to an apical bristle.

Legs ordinary, with narrowly elongate-oval tibial organ; hind tibia without spur; mid femur of male with slight dorsal swelling and a single row of 5 warts with short spines.

Wing as usual for Oscinellinae, costa ending at 4th vein (M_{1+2}), which ends at apex of wing; 2nd costal sector obviously longer than 3rd sector; 3rd and 4th veins straight, parallel; 1st basal cell narrow, not broadened midway, sides of distal portion parallel; anterior crossvein (r-m) beyond middle of discal cell; anal area of wing well developed.

Male genitalia (Figs. 5, 6) with cerci discrete, well separated, short and rounded; surstyli straplike, slightly tapering to apex; hypandrium moderately broad, completely closed; postgonites large, clavate; aedeagal apodeme short and slender. Female cerci exceptionally long and slender.

Included species.—As New Combinations with *Neoscinella*: *Oscinella fuscipalpis* Becker, *O. gigas* Sabrosky, *O. lugubria* Sabrosky.

Gender and derivation.—Feminine; from the prefix *neo-* plus *Oscinella*.

Remarks.—This small group is composed of three species that do not fit elsewhere in the classification of the family. No males are available for *O. fuscipalpis*, but it is associated on the basis of other characters.

Speccafrons Sabrosky, New Genus

Type-species: *Oscinella mallochi* Sabrosky, 1938 (*Botanobia halterata* Malloch, preoccupied).

Polished black, with brownish-black halteres and characteristically speckled frons, and distinctive male genitalia.

Eye densely short pubescent; frons of moderate width, at vertex wider than an eye and slightly less than ½ width of head, but less than its own length; frontal triangle of medium size, ⅔ length of frons, chiefly polished black but ocellar tubercle broadly gray tomentose and an apical streak of gray tomentum, and a row of long interfrontal hairs on each side; frons with numerous hairs set in bare spots scattered over the finely tomentose surface, giving a characteristic speckled appearance; in profile, eye large, long axis nearly vertical; gena narrow, occupied chiefly by sclerotized genal dilation (peristome); vibrissal angle rounded, approximately a 90° angle, not projecting in advance of eye; face dull, facial carina a low ridge, inconspicuous; antenna short, 3rd segment suborbicular; arista short, micropubescent; oral cavity much broader than long; proboscis short and fleshy. Cephalic bristles: Outer verticals and the erect and cruciate postocellars conspicuous, moderately long, the inner verticals and the erect and cruciate ocellars little longer than hairs; a row of 6–7 fronto-orbital hairs on each side of frons.

Mesonotum chiefly polished black; mesoscutum densely punctate, with numerous hairs arranged in rows, the median acrostical and dorsocentral rows evident; scutellum broadly rounded, only about ½ as long as broad at base, disk flattened to slightly convex, punctured and rugose, with numerous hairs; mesopleuron bare. Thoracic bristles: 1 humeral, 1 + 2 notopleural, 1 postalar, 1 posterior intraalar, 1 posterior dorsocentral, and 1 apical and 1 to several subapical scutellar pairs of bristles, the apical scutellars cruciate.

Legs short, not unusually developed; hind tibia posterodorsally with elongate-oval tibial organ; femoral organ on mid femur of male consisting of 1 row of warts bearing short spines.

Wing venation ordinary, without unusual development; costa to 4th vein, which ends at apex of wing; 2nd vein weakly bisinuate; marginal cell narrower than submarginal; 2nd costal sector much longer than 3rd sector; ultimate section of 3rd and 4th veins approximately parallel; 1st basal cell not broadened midway; anterior crossvein joins discal cell slightly beyond middle of cell; ultimate section of 5th vein longer than distance between crossveins; anal area of wing well developed.

Male genitalia (Figs. 7–9) with epandrium and surstyli heavily sclerotized, the latter unusually large, incrassate and semi-globose, appearing like a pair of boxing gloves, each as large as the whole hypandrial area; cerci separate, large and broad; hypandrial arms only weakly fused behind; postgonites tapered to narrow apex; aedeagus small, aedeagal apodeme short.

Included species.—*Oscinella mallochi* Sabrosky, NEW COMBINATION.

Gender and derivation.—Feminine, from Anglo-Saxon *specca*, a speck, plus Latin *frons*, forehead or brow.

Subfamily Chloropinae

Epichlorops Becker. *Chlorops scaber* Coquillett lacks the broadly rounded apex of frontal triangle found in other species of the genus, but it seems best referred to *Epichlorops* (New Combination) because of the rugose, unstriped mesoscutum.

Parectecephala Becker. Among other characteristics of the type-species, *Oscinis longicornis* Zetterstedt, Andersson (1977) mentioned the "velvety black spot in anterior part of inner lateral mesonotal stripes," and the mesopleural hairs. These features may be true only of the type-species, although the name *Parectecephala* has been widely used in almost all faunal regions, including the Nearctic, for *Chlorops*-like species with slightly elongate third antennal segment and thick white arista. Pending further studies, I retain *Parectecephala* in its customary sense for our common species, none of which has the characteristics just cited for the type-species.

Pseudopachychaeta Strobl. This was proposed for a small species, *P. pachycera* Strobl, from the Balkan Peninsula. Andersson (1977) has referred to it *Oscinis approximatonervis* Zetterstedt, previously included in *Diplotoxa* or *Lasiosina,* and I agree with Andersson.

Homaluroides Sabrosky, New Genus

Type-species: *Chlorops gramineus* Coquillett, 1898.

Stocky-bodied, *Chlorops*-like species with small antennae, broad genae, and a large frontal triangle with 2 or more rows of hairs on each half.

Eyes bare; head higher than long, frons only slightly projecting in advance of eyes; frons very broad, over twice width of an eye and broader than long; frontal triangle large, apex at anterior margin of frons and basal corners almost touching eyes except in a few species, in most species with a median depression varying from a narrow groove to a broad and shallow depression, with 2 or more rows of hairs on each ½ of triangle, the surface ranging from coarsely punctate to shagreened to smooth and only finely punctured; facial profile receding, vibrissal angle greater than 90°, obtusely rounded; facial carina a low narrow ridge continuing below a rather broad ridge separating the antennal bases; ptilinal suture typically conspicuous, in some species appearing as a deep groove extending almost straight across the frons above the antennal bases, but usually turned ventrad at the ends, often with broad areas both mesad and laterad of the end portions of the suture, the mesal area continuous with a frequently well-exposed frontal lunule; parafacial relatively broad, usually visible in profile; gena broad, breadth greater than that of a 3rd antennal segment, divided approximately in ½ by a diagonal line from posteroventral curve of eye to vibrissal angle, the posteroventral

½ shining and more or less rugose; antenna small, arista micropubescent; proboscis small. Chaetotaxy reduced: Inner and outer vertical bristles distinct, ocellars and postocellars slender and less distinct, not obvious, proclinate, the ocellars divergent.

Mesoscutum convex, thickly covered with fine to coarse, piliferous punctures; scutellum relatively short, broader than long, broadly rounded apically, disk convex with numerous hairs in 2 stripelike patches, one on each side of a bare median area; mesopleuron usually bare, sometimes with a few hairs, occasionally extensively haired. Chaetotaxy: 1 humeral, 1 anterior and 2 posterior notopleural, 1 postalar, 1 posterior intraalar, 1 posterior dorsocentral, 1 apical and usually 1 subapical scutellar pairs of bristles, the apical and subapical scutellars grouped near apex of scutellum, apicals near to each other but not approximated at bases.

Legs moderately slender, hind femur not enlarged, hind tibia slender and lacking a tibial organ posterodorsally.

Wings with strong veins except for ultimate sector of 4th vein (M_{1+2}); costa extending slightly beyond end of 3rd vein; 3rd and 4th veins widely divergent, ending before and behind apex of wing, respectively; 1st basal cell long and narrow; anterior crossvein beyond a point opposite middle of discal cell, the posterior crossvein appearing retracted.

Male genitalia (Figs. 11, 12) with cerci united as a broad mesolobe that is sometimes weakly bifid apically; surstyli not lobed, long, moderately broad at base, then suddenly narrowed and thence narrow, tapering, and curved to a narrow, sometimes hooklike apex; hypandrium elongate, U-shaped, narrowed anteriorly in *ingratus* and *quinquepunctatus*.

Included species.—As New Combinations with *Homaluroides*: *Chlorops abdominalis* Coquillett, *Anthracophaga distichliae* Malloch, *C. gramineus* Coquillett, *C. ingratus* Williston (synonyms, *A. interrupta* Becker, *C. fossae* Becker), *C. melleus* Loew, *Homalura mexicana* Duda, *C. pilosulus* Becker (*C. horridus* Becker, preoccupied), *C. quinquepunctatus* Loew, *C. surdus* Curran.

Gender and derivations.—Masculine; derived from the generic name *Homalura* plus *-oides*, resembling.

Remarks.—As far as known, the species form galls on grasses. The type-series of *distichliae* was reared from bract-covered galls on salt-marsh grass, *Distichlis spicata* (L.) Greene. Both *ingratus* and *gramineus* were described from material reared from gall-like swellings on grasses, the former from *Muhlenbergia mexicana* (L.) Trin., the latter from an unknown grass. The former has subsequently been reared from other species of *Muhlenbergia*. New species near *melleus* have been reared from stem swellings on *Aristida* and *Sporobolus*. A species near *distichliae* was reared from Bermuda grass, *Cynodon dactylon* (L.) Pers.

Two different species groups can be recognized, but both appear to have the same fundamental characters, and there are some intermediate species: *gramineus* group (frontal triangle densely and coarsely punctate, median depression broad and shallow): *distichliae, gramineus, mexicanus,* also *pilosulus* (atypical); *quinquepunctatus* group (frontal triangle smooth and polished, piliferous punctures fine or only moderately distinct, not appreciably interrupting the shine; median depression a narrow groove): *quinquepunctatus, melleus, surdus. Chlorops abdominalis,* with entirely black thorax, and *C. ingratus,* with narrower frontal triangle, have a different habitus but seem best referred here.

Superficially, *Homaluroides* suggests the European *Homalura* Meigen, but that is quite a different genus in a number of distinctive characters: Scutellum highly convex above but flat below, with narrow margin on which are a number of short bristles on small tubercles, the apical pair of bristles slightly longer than the others and only narrowly separated; hind tibia with large, elongate-oval tibial organ like that of *Thaumatomyia*; facial carina a high, broad, flat ridge evident in profile and separating distinct antennal foveae; vibrissal angle slightly projecting, face concave in profile. The European species of *Homalura* have the mesoscutum, scutellum, and mesopleuron coarsely punctate, but the species of *Homaluroides* are finely punctate as usual in Chloropinae. The mesopleuron in *Homaluroides* may have some hairs.

The Palearctic genus *Eurina* is another genus with some similarities to *Homaluroides,* but the head is elongate, frons projects well in advance of the eyes, and the antennae are elongate, notably the second segment. The scutellum is broad apically, almost as broad as at the base. The pteropleuron is haired, an exceptionally unusual character in Chloropidae.

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